

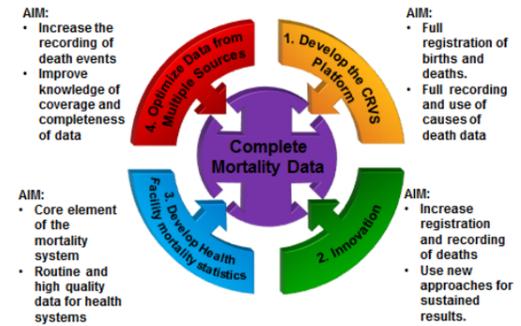
Investing in Mortality Data Systems and Analytical Capacity for Improved Measurement of Impact of HIV/AIDS, TB and Malaria: Africa and Asia

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Background: Mortality is a key indicator of program impact and service quality. A decline in mortality gives a compelling evidence of impact of programmatic efforts. Likewise, a declining death in a treatment cohort (e.g., patients on ART, DOTS) shows an improvement in the quality of care. With “investing for impact” as its core principle, the Global Fund has been in the forefront in supporting countries to determine the extent to which investments in disease control programs have resulted in saving lives. However, owing to inadequate investment in mortality data systems and limited reliable data and analytical capacity, the assessment of mortality impact of program scale-up in many settings has remained at best sub-optimal.

Cognizant of this, and as part of the overall health system strengthening efforts, the Global Fund, together with WHO and other global partners has recently been proactively encouraging its priority grant recipient countries to invest in systems and tools that would enable the generation, analysis and use of mortality data for program planning as well as service quality monitoring and impact evaluation. The ongoing mortality analysis activity supported through the Global Fund special initiatives for country data systems in 18 priority grant recipient countries, is one such example.

Building Mortality Systems



Source: WHO. Building Mortality Systems. Presented at mortality analysis workshop, Dec 2014

Objectives: The purpose of the current initiative is to build on a large scale, sustainable systems through in-country capacity for generation, analysis and use of mortality data in low and middle-income countries with high burden of HIV, TB and malaria. The specific objectives are to:

1. support priority countries to carry out mapping of all relevant in-country mortality data sources;
2. conduct analysis of mortality and causes of death from health facilities, community vital registers, sample registration system, surveys and surveillance sources; and
3. promote the use of mortality data to track progress and to measure impact of programmatic efforts.

Methods: The approach involved two rounds of training and proposal development workshops; facilitation of technical assistance as required by countries; and ongoing financial support and technical guidance during the current implementation of the initiative.

Key observations and results: The availability of mortality data varies across countries.

- All countries have in-patient mortality data, albeit varying levels of quality, which could be analyzed by age, gender, locality and cause.
- Countries also generate mortality data from various sources including, disease-specific mortality records, program-specific registers (ART, TB and malaria treatment registers), population-based surveys, sample registration systems, and demographic surveillance systems.
- Civil registration and vital statistics (CRVS) systems are underdeveloped.
- After assessing the quality and analyzability of available data, fundable proposals with country-specific analysis plans were effectively developed.
- Analyses are still underway. We present preliminary results for 3 countries: Zimbabwe, Bangladesh, and Democratic Republic of Congo.

Bangladesh: Mapping of TB mortality data sources

Different databases	Variables available in different databases					
	TB death	Age	Sex	Place of death	Data availability	Cases/population
SVRS, BBS	✓	Birth and death date	✓	✓	Since 2003	206,522 HH
BDHS (Death of U5 children)	---	--	✓	✓	Since 1994	---
NTP database	✓	✓	✓	✓	5-6 years	190,893 cases 2014
HDSS, icddr'b (3 sites)	✓	✓	✓	✓	Matlab: 2003-2014 Mirsarai & Avoyanagar: 2004-2010	
BMMS (women 13-49 yrs only)	✓	✓	Female only	✓	2001, 2010	175,00 HHs, 2010
ART cohort	✓	✓	✓	✓	2007-2014	

SVRS: Sample vital registration system; BBS: Bangladesh behavioral survey; BDHS: Bangladesh demographic and health survey; BMMS: Bangladesh maternal mortality survey; HDSS: health and demographic surveillance system

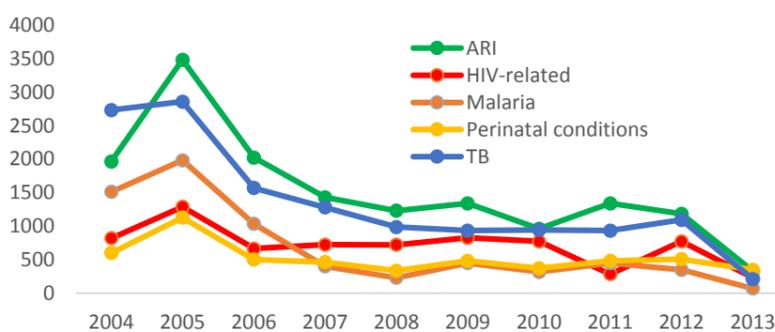
The TB control program of Bangladesh, in collaboration with BRAC university, has just concluded the first phase of the analysis – synthesis of mortality data from five sources identified above. The second phase, which will commence soon, will investigate population level TB deaths, using the verbal autopsy technique.

Zimbabwe: Understanding mortality trends over 20 years

In 2015, the Ministry of Health of Zimbabwe and the Global Fund jointly identified consultants with expertise on mortality data analysis. The first phase of the work, which was completed in mid-2015, focused on identification of key data sources that would enable analysis of mortality trends in Zimbabwe over the last 20 years. Preliminary trend analysis of the top-five causes of mortality over the past ten years is shown on the graph below.

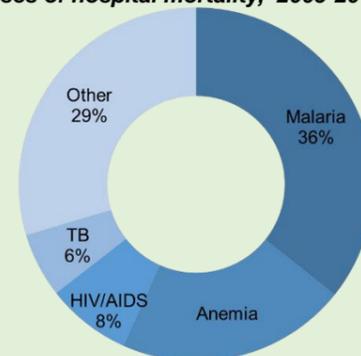
The second phase involved preliminary analysis of nationally available data to understand data limitations and set the stage for the main analysis. The third and final phase of the analysis, which is currently underway will synthesize data from source documents (hospital registers and CRVS database). The analysis brings together the work of two major national actors – the Ministry of Health and Bureau of Statistics. Sustainability of the initiative is envisaged through the integration with the DHIS2 ongoing activities (ref. DHIS2 training session, Bulawayo, picture below).

Zimbabwe top-five causes of mortality trends, 2004-2013
 Source: MOH Zimbabwe, March 2015



Democratic Republic of Congo: In the fourth quarter of 2015, DRC successfully concluded the joint collection of data that would enable two component analysis: a) mortality and causes of death analysis in clinical settings; and b) malaria rapid impact assessment. The analysis team also assessed the availability and quality of data in the source documents in as sample of 173 health facilities across the country. The analysis is still underway, and the preliminary results show that malaria TB and HIV/AIDs collectively accounted for 50 percent of inpatient deaths over the last 10 years.

Causes of hospital mortality, 2005-2014, DRC



Conclusion and the way forward: This initiative has facilitated the coordination of multi-partner efforts and is laying a foundation for increased resources for mortality data system as well as strengthening of sustainable analytical capacity in-country. The analysis will enable impact assessment of disease control efforts, identifying technical assistance needs, South-South technical networking, and the development of investment plans to strengthen underlying data systems.

Going forward, global partners should invest on building mortality data system as an integral component of country health information system strengthening, including integration of mortality data into electronic health information platforms such as DHIS2. Particular focus should be on strengthening mortality and causes of death certification, registration and reporting in health facilities as well as from community registers. These efforts should be linked with continuous support for analysis and use of mortality data to inform policy decisions, national strategic planning, resource allocation and program implementation.



DHIS2 training session, Bulawayo, Zimbabwe

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